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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)		Application Number	10/821,389
		Filing Date	April 9, 2004
		First Named Inventor	Terrance P. SNUTCH
		Art Unit	1614
		Examiner Name	Not Yet Assigned
Total Number of Pages in This Submission	10	Attorney Docket Number	381092000624

**ENCLOSURES (Check all that apply)**

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement (3 pages) <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Form PTO-1449 (3 pages + copy) Copies of 8 References Return Receipt Postcard		
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**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual name	MORRISON & FOERSTER LLP Kate H. Murashige - 29,959
Signature	
Date	October 1, 2004

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Dated: October 1, 2004

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(Marian L. Christopher)



PATENT  
Docket No. 381092000624

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*Marian Christopher*  
Marian Christopher

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In the application of:

Terrance P. SNUTCH et al.

Serial No.: 10/821,389

Filing Date: April 9, 2004

For: CALCIUM CHANNEL INHIBITORS  
COMPRISING BENZHYDRIL SPACED  
FROM PIPERAZINE

Examiner: Not Yet Assigned

Group Art Unit: 1614

**INFORMATION DISCLOSURE  
STATEMENT UNDER 37 C.F.R. § 1.97 & 1.98**

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Form PTO-1449. Copies of documents numbers 11, 12, 14, 20, 21, 29, 44 and 45 are submitted herewith. Copies of all other documents were previously submitted in an Information Disclosure Statement and/or Office Action directed to the related applications Serial Nos. 09/107,037, filed 30 June 1998, now United States Patent Number 6,011,035 and 10/409,868, filed 8 April 2003, and, accordingly,

copies are not included herewith. This protocol conforms with 37 C.F.R. §1.98(d) and M.P.E.P. 609(A)(2). The Examiner is requested to make these documents of record in the application.

The documents numbers 11, 12, 14, 20, 21, 29, 44 and 45 listed on the attached Form PTO-1449 were cited in an International Search Report (copy attached) mailed on July 1, 2004 and in an Invitation to Pay Additional Fees (copy attached) mailed on September 2, 2004 directed to a counterpart international or foreign application. A certification under 37 C.F.R. § 1.97(e)(1) follows:

I hereby certify that each item of information was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

This Information Disclosure Statement is submitted:

- ☐ With the application; accordingly, no fee or separate requirements are required.
- ☐ Before the mailing of a first Office Action after the filing of a Request for Continued Examination under § 1.114. However, if applicable, a certification under 37 C.F.R. § 1.97(e)(1) has been provided.
- ☒ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required. However, if applicable, a certification under 37 C.F.R. § 1.97(e)(1) has been provided.
- ☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.
  - ☐ A fee is required. A check in the amount of \_\_\_ is enclosed.
  - ☐ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
  - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided above; accordingly; no fee is believed to be due.
- ☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.

- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided above and a check in the amount of \_\_\_ is enclosed.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided above and a Fee Transmittal form (PTO/SB/17 is attached to this submission in duplicate.)

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 and § 1.98 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal form is separated from this document and the Patent Office determines that an extension and/or other relief (such as payment of a fee under 37 C.F.R. § 1.17(p)) is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing 381092000624. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: October 1, 2004

Respectfully submitted,

By: Kate H. Murashige  
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Form PTO-1449

INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION

(Use several sheets if necessary)

Docket Number 381092000624

Application Number 10/821,389

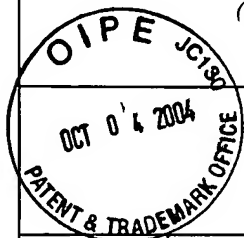
Applicant

Terrance P. SNUTCH et al.

Filing Date April 9, 2004

Group Art Unit 1614

Mailing Date October 1, 2004



## U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate
	1.	11/1966	3,288,795	Irikura et al.			
	2.	02/1980	4,188,485	Kukla			
	3.	04/1990	4,918,073	Ruger et al.			
	4.	01/1995	5,386,025	Jay et al.	536	23.5	
	5.	06/1995	5,428,038	Chatterjee et al.	514	253	
	6.	04/1997	5,623,051	Catterall et al.	530	324	
	7.	07/1997	5,646,149	Hellberg et al.	514	253	
	8.	12/1997	5,703,071	Itoh et al.	514	218	
	9.	01/2000	6,011,035	Snutch et al.	514	231.2	
	10.	09/2001	6,294,533	Snutch et al.	514	231.2	
	11.	10/2001	6,310,059	Snutch	514	222.2	
	12.	10/2001	2001/029258	Snutch	514	231.2	
	13.	05/2002	6,387,897	Snutch	514	231.2	
	14.	02/2004	2004/034035	Snutch et al.	514	255.01	

## FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO
+	15.	07/1986	EP 0 187 524	EPO			
+	16.	03/1987	EP 0 213 006	EPO			
+	17.	11/1991	EP 0 458,387	EPO			
	18.	01/1983	ES 504 202	SPAIN			
	19.	04/1983	ES 514 167	SPAIN			
+	20.	05/1983	ES 8 304 135	Spain			
+	21.	07/1983	ES 8 305 343	Spain			
+	22.	06/1978	GB 1 513 883	United Kingdom			

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Form PTO-1449		Docket Number 381092000624	Application Number 10/821,389
<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b> <i>(Use several sheets if necessary)</i>		Applicant Terrance P. SNUTCH et al.	
		Filing Date April 9, 2004	Group Art Unit 1614
		Mailing Date October <u>1</u> , 2004	

+	23.	07/1994	WO 94/14786A	WIPO				
+	24.	04/1999	WO 99/15129	WIPO				
+	25.	05/1999	WO 99/25686	WIPO				
+	26.	01/2000	WO 00/01375A	WIPO				
+	27.	04/2000	WO 00/18402A	WIPO				
+	28.	06/2000	WO 00/37059A	WIPO				
	29.	06/2001	WO 01/45709	WIPO				

**OTHER DOCUMENTS** *(including author, title, Date, Pertinent Pages, Etc.)*

Examiner Initials	Ref. No.	Title
	30.	Bourinet et al., "Splicing of $\alpha_{1A}$ Subunit Gene Generates Phenotypic Variants of P- and Q-Type Calcium Channels," Nature Neuroscience (1999) 2:407-415.
	31.	Chiarini, A. et al., "1,4-Dihydropyridines Bearing a Pharmacophoric Fragment of Lidoflazine" Bioorg & Med Chemistry (1996) 4(10):1629-1635.
	32.	Cohan, S. et al., Annals of the New York Academy of Sciences (1991) 635:397-399.
	33.	Cribbs et al., "Cloning and Characterization of $\alpha 1H$ from Human Heart, A Member of the T-Type $Ca^{2+}$ Channel Gene Family," Circulation Research (1998) 83:103-109.
	34.	Database WPI Week 9711 Derwent Publications Ltd., London, GB; Abstract JP 09 003067, XP002133055 (Hisamitsu Pharm Co Ltd.) January 7, 1997.
	35.	De Waard et al., "Structural and Functional Diversity of Voltage-Activated Calcium Channels," ION CHANNELS (Narahashi, T. ed. Plenum Press, NY (1997) 4:41-87.
	36.	Dhainaut et al., J of Medicinal Chemistry (1992) 35:2481-2496.
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	38.	Dunlap et al., "Exocytotic $Ca^{2+}$ Channels in Mammalian Central Neurons," Trends Neurosci (1995) 18:89-98.
	39.	Estep, K. et al., J of Medicinal Chemistry (1995) 38(14):2582-2595.
	40.	Galizzi et al., "Neuroleptics of the Diphenylbutylpiperidine Series are Potent Calcium Channel Inhibitors," Proc Natl Acad Sci USA (1986) 83: 7513-7517.
	41.	Glamkowski, E. et al., J of Medicinal Chemistry (1977) 20(11):1485-1489.
	42.	Gould et al., "Antischizophrenic Drugs of the Diphenylbutylpiperidine Type Act as Calcium Channel

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<b>Form PTO-1449</b>  <b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b>  <i>(Use several sheets if necessary)</i>		Docket Number 381092000624	Application Number 10/821,389
		Applicant  Terrance P. SNUTCH et al.	
		Filing Date April 9, 2004	Group Art Unit 1614
		Mailing Date October 1, 2004	
		Antagonists," Proc Natl Acad Sci (1983) 80:5122-5125.	
	43.	Grantham et al., "Fluspirilene Block of N-Type Calcium Current in NGF-Differentiated PC12 Cells," Brit J Pharmacol (1994) 111:438-488.	
	44.	International Search Report for PCT/CA2004/000535, mailed on 1 July 2004, 5 pages	
	45.	Invitation to Pay Additional Fees for PCT/CA2004/000539, mailed on 2 September 2004, 6 pages	
	46.	Ito et al., "U-92032, a T-Type Ca <sup>2+</sup> Channel Blocker and Antioxidant, Reduces Neuronal Ischemic Injuries," Eur J Pharmacol (1994) 257:203-210.	
	47.	King et al., "Substituted Diphenylbutylpiperidines Bind to a Unique High Affinity Site on the L-Type Calcium Channel," J Biol Chem (1989) 264:5633-5641.	
	48.	Lee et al., "Cloning and Expression of a Novel Member of the Low Voltage-Activated T-Type Calcium Channel Family," Journal of Neuroscience (1999) 19:1912-1921.	
	49.	Lehmann et al., Archiv der Pharmazie (1988) 321(11):807-812.	
	50.	McCleskey et al., "Functional Properties of Voltage Dependent Calcium Channels," Curr Topics Membr (1991) 39:295-326.	
	51.	Miyano, S. et al., Chem Pharm Bull (1990) 38(6):1570-1574.	
	52.	Ohtaka, H. et al., Chem Pharm Bull (1987) 35(10):4117-4123.	
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	54.	Perez-Reyes et al., "Molecular Characterization of a Neuronal Low-Voltage-Activated T-Type Calcium Channel," Nature (1998) 391:896-900.	
	55.	Prasad, R. et al., J of Medicinal Chemistry (1968) 11(6):1144-1150.	
	56.	Sather et al., "Distinctive Biophysical and Pharmacological Properties of Class A (BI) Calcium Channel $\alpha_1$ Subunits," Neuron (1993) 11:291-303.	
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	58.	Stea et al., Handbook of Receptors and Channels (North, R.A. ed. CRC Press (1995) 113-151.	
	59.	Tytgat, J. et al., Brain Research (1991) 549(1):112-117.	
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	61.	Vadodaria, D. et al., J of Medicinal Chemistry (1969) 12:860-865.	
	62.	Zikolova, S. et al., Tr. Nauchnoizsled Khim-Farm Inst (1972) 8:59-67.	
	63.	Zikolova, S. et al., Tr. Nauchnoizsled Khim-Farm Inst (1984) 14:23-28.	
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